

Guidance for the provision of health surveillance in higher education institutions

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1. Introduction

This document provides guidance about the provision of health surveillance specifically for the higher education sector. It is not intended that this should be a guide to health surveillance for situations which are common to all places of employment. It provides guidance on surveillance required under **Control of Substances Hazardous to Health Regulations (COSHH) 2002** legislation and where health surveillance is not strictly required by legislation but may be considered on the basis of first principles (for example research into nanoparticulates).

The document will describe how to assess if health surveillance is necessary, what types of health surveillance may be required and how the health surveillance process should be organized.

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It does not deal in detail with health surveillance techniques. In addition, specific guidance on areas of HEOPS Health Surveillance Guidance V1.0 October 2013, particularly difficulty in research laboratories such as the handling of carcinogenic materials, asthmagens and nanoparticulates is in development by HEOPS.

2. Background

Certain aspects of the higher education sector make health surveillance particularly challenging:

1. Higher education institutions carry out research in diverse fields and activities. A variety of hazardous agents and chemicals may be encountered in areas such as chemistry, chemical engineering, agriculture, biosciences, physical sciences and medicine
2. Compared to the industrial sector many research activities are short lived and continually evolving. This leads to significant practical problems in carrying out and maintaining relevant risk assessments
3. Staff turnover is rapid. Research may be carried out by a changing group of post-graduate researchers, sometimes without prior experience in safety issues and the management structure and responsibilities of academics are not always clear.
4. Research is by its nature at the margins of what is known and understood. Exposure may occur to novel hazardous materials and agents, and in novel situations, where it is difficult to estimate exposure.
5. Research may also involve handling small quantities of materials which are known to represent a high risk e.g. substances which are highly biologically active, highly infectious or extremely reactive. Often however the hazard and risk may be entirely unknown or can only be estimated.

These above issues pose challenges both in determining what health surveillance is appropriate and how best in to deliver any health surveillance programme that is required.

3. Responsibility for identification of individuals requiring health surveillance

Organisations must ensure that there are robust systems in place to identify all individuals requiring health surveillance bearing in mind that this may include employees, students and academic visitors. Generally, whoever undertakes the risk assessment for the work is responsible for identifying the need for health surveillance. In research work this may mean the Principal Investigator (PI), the laboratory manager, or other manager. They must ensure they have sufficient knowledge of the risks generated by their work or should seek specialist advice from the organisation's Safety or Occupational Health advisers. The requirement for health surveillance and a health (exposure) record must be stated clearly in the risk assessment or code of practice for the work. Departmental Heads must ensure that anyone undertaking risk assessments understands this responsibility.

4. The contents and storage of a health (exposure) record

Health Records are records of *exposures* to hazardous substances and under the Control of Substances Hazardous to Health (COSHH) Regulations must be kept securely by the employer for 40

years after the work with the substance has ceased¹. They should be kept with details of any assessments of control measures such as air sampling results. Health Records do not contain personal medical information (See Appendix 1 - Example Health (*Exposure*) Record).

Occupational health surveillance *outcome* reports to the Health Record holder should contain only: The name of the occupational health provider, the hazard for which surveillance was undertaken, the date of the surveillance and the outcome in terms of fitness for work or restrictions from work (see Appendix 2)

5. Procedures for recall and attendance

Once an individual has registered on a health surveillance programme the Occupational Health Service (OHS) must ensure that it has robust arrangements for recalling employees for appointments within the appropriate timescales. Within Higher Education this can be a complex procedure owing to the diverse and flexible nature of the workforce. The responsibility for ensuring attendance lies with the employing department; nevertheless the OH department should ensure that managers and principal investigators are aware of the extent of their responsibilities.

6. Action following health surveillance

After surveillance has been completed, results should be fed back to management.

The grouped outcome whether or not health surveillance identified any hazardous exposure—should be reported, on an anonymised basis, to those in charge of the work and to other individuals or committees responsible for overseeing or monitoring the effectiveness of health and safety controls, along with any recommendations on actions required to improve exposure controls or surveillance procedures.

For major surveillance programmes e.g. for laboratory animal allergy, outcomes should be reported to the HEI's senior health and safety committee.

Individual outcomes should be reported to whoever holds the Health (Exposure) Record for the individual. These reports should not include any clinical information.

Individual staff or students who have developed health conditions should be assessed by a specialist occupational practitioner and advised on the risks from further exposure. Temporary or permanent redeployment to other work may be necessary to prevent further exposure where this may result in significant harm to health, e.g. if occupational asthma has developed. Confidential medical communications to departments about individuals are different to the Health Surveillance record and are not covered in this guidance.

Where changes to exposure controls or working arrangements are necessary to protect the individual from further hazardous exposure, recommendations on this should be made to the person's line manager and/or the person in control of the work.

¹ This document does not deal with health surveillance under the Control of Asbestos Regulations 2012 where records must be kept for 50 years

7. Data protection and record keeping

Both the Health (Exposure) Record and the Health Surveillance records contain “special category” data and must be kept securely and processed in accordance with the tenets of the **The General Data Protection Regulation (EU) 2016/679**. Individuals must understand that the data is to be stored for 40 years after they have finished work. Arrangements must ensure that data are not kept beyond the appropriate time.

8. Health Surveillance -assessing exposure

Health surveillance is a control measure to help manage any residual risk to a worker’s health after control measures have been put in place.

In a teaching or academic research environment the quantity of a hazardous substance used, the proportion of work time spent working with it, and the total duration of use are likely to be far smaller than is typical in an industrial setting. Exposure to trace quantities of many toxic or irritant substances will cause harm only if exposure occurs sufficiently frequently.

Use of standard laboratory safety controls such as safety cabinets, personal protective equipment, and adherence to good laboratory/workshop practice may be sufficient to conclude that the level of exposure is so well controlled that there is no significant likelihood of an adverse health effect.

However health surveillance may be appropriate if very small or infrequent exposure to a hazardous substance can pose risk to health, such as might occur with potent respiratory sensitizers, recognised carcinogens or highly active biological agents such as cytotoxic drugs or neurotoxins. In most situations, a project-specific exposure risk assessment, taking into account issues such as the maximum amount of substance in use, frequency of use, the duration of use, as well as consideration of the engineering and procedural controls in place will be necessary to determine whether health surveillance will be required. The small scale academic research environment is so variable that generic assessments will be of limited applicability. Where research is continually subject to change, dynamic risk assessment, continually assessing risks and risk control solutions as they arise may be required.

9. Hazardous substances which may require health surveillance

| Substance | Comment |
|-----------------------------|--|
| Respiratory sensitizers | Respiratory sensitizers may require health surveillance as it is often impossible to ensure control to a level at which there is no risk of sensitisation. Specific guidance on surveillance for respiratory sensitizers will be developed |
| Small laboratory animals | Surveillance likely to be necessary for any recurring work with live animals or handling of waste, unless the process is fully contained. Work only with extracted tissue poses no significant risk of sensitisation and does not require surveillance |
| Sensitizing small molecules | Reactive small molecules such as isocyanates, glutaraldehyde, |

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| | acid anhydrides are associated with a high level of sensitisation. |
| Sensitizing macromolecules | Two particular macromolecules used in scientific research – enzymes and penicillins – are associated with respiratory sensitisation |
| Skin irritants | Lab chemicals, solvents, cleaning materials and disinfectants can all cause skin irritation. It is unlikely that the level of exposure in scientific research will cause sufficient problems to require health surveillance. For employees working with metalworking fluids: skin surveillance is recommended |
| Skin sensitizers | Certain skin sensitizers may require health surveillance as sensitisation may occur at low levels of exposure |
| Sensitising small molecules | Particularly with halogenated electrophilic agents such as dinitrochlorobenzene and p-nitrobenzyl bromide |
| Sensitising macromolecules | Sensitivity to latex can cause serious problems and always requires health surveillance |
| Biological Agents | Ensure employee immunisation for all vaccine preventable work Health surveillance for biological risks (as strictly defined) may not be appropriate. The circumstances where it may be useful could be where the agent causes serious disease with an insidious onset for which there is effective treatment available e.g. M. Tuberculosis. For many infections, a high level of personal vigilance by workers is appropriate so that prompt medical attention is sought if they develop early signs of infection, e.g. for leptospirosis. |
| Hazard Group 3 and 4 organisms | The maintenance of a Health (Exposure) Record is required by COSHH. Replication competent lentiviruses may require baseline HIV status and symptom surveillance |
| Genetically modified organisms | Health surveillance may be required where the genetic modification causes an increase in potential pathogenicity. |
| Chemicals | |
| Chronic poisons such as cytotoxic agents | Cytotoxic anti-cancer drugs symptom surveillance only for those who directly handle these drugs. If a class 2 safety cabinet is used and gloves etc. no surveillance is required. |
| Carcinogens (Risk phrase R45, R49) and Mutagens (R46) | A health record only is required |
| Potent acute toxins | Where exposure may occur which could cause recognisable symptoms, but which may not result in incapacitating illness, periodic surveillance to detect such exposures may be necessary. |
| Physical hazards | |
| Ionising radiation | Health surveillance is undertaken in accordance with the ionising radiation regulations 2017 if a worker is designated a “classified person” This is usually determined by a Radiation Protection Adviser |

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| Noise | Required if daily average exposure (Leq) exceeds 85dB(A) or exceeds 80 dB(A) where the individual may be particularly sensitive to noise or in some other circumstances |
| Vibration | Required if daily average exposure (EAV) exceeds 2.5m/s ² A (8) |

10. HE work environments where health surveillance may be required

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|----------------------------------|
| Biomedical research laboratories |
| Chemical research laboratories |
| Agricultural stations |
| Wind-tunnel facilities |
| Engineering workshops |
| Plant rooms |

11. Health surveillance procedures and staff competencies

Those carrying out health surveillance should know what procedure to use, how to interpret data and how to act on results. Surveillance procedures should be easy to perform, preferably non-invasive and acceptable to employees. In particular procedures should not cause risk to the employee's health. Doctors and nurses must meet the requirements of their respective professional bodies for registration, revalidation, continuing professional development, professional indemnity, and audit. Given the complexity of risk in a university setting, a specialist occupational physician should *clinically* lead the occupational health service clinical team. Persons carrying out specialised health surveillance procedures such as spirometry must undertake training in the procedure and have their competency validated.

12. References:

- *EH40/2005 Workplace exposure limits*, HSE: www.hse.gov.uk/pubns/priced/eh40.pdf
- *Promoting a positive culture - a guide to health and safety culture* Institution of Occupational Safety and Health: www.iosh.co.uk/techguide
- *'Responsible research'* www.iosh.co.uk/techguide.
- Occupational health services in higher and further education **HSG257** ISBN 9780 71766194 7
- The Control of Substances Hazardous to Health Regulations 2002 – Approved Code of Practice (Fifth Edition) <http://www.hse.gov.uk/pubns/books/l5.htm>

13. Appendix 1: Example health (exposure) record

| EXAMPLE: HEALTH SURVEILLANCE RECORD (to be sent to Health Record keeper and form part of Health Record) | | | |
|---|---|--------------|-------------------------------------|
| To: Department/ Safety Office | From: Occupational Health Service: 'x' | | Re: work with Hazard : 'X' |
| Employee's Name: Ref No: | Gender: Date of Birth: NI Number: | Address: | |
| Health Surveillance Date: | | | |
| Outcome of surveillance: | FIT | UNFIT | FIT WITH THESE RESTRICTIONS: |
| Next attendance due: | | | |

14. Appendix 2: Responsibilities for health surveillance in HEIs

| Title | Health Surveillance Responsibilities |
|---|--|
| ViceChancellor/ Dean | Overall responsibility for: <ul style="list-style-type: none"> • Health and safety management system • Policy |
| Heads of Department / Director of Institute (+ Departmental safety officer) | Ensure local arrangements in place for: <ul style="list-style-type: none"> • Assessing risks • Identifying work requiring health surveillance • Informing occupational health of work requiring surveillance • Ensure Health (Exposure) Records kept • Sanctions for non-attendance • Responding to surveillance outcomes |
| Research programme leader/Risk Assessor/ Principal Investigator/ manager of work | Ensuring arrangements for: <ul style="list-style-type: none"> • Risk assessment & consider need for surveillance, where health risks from exposure cannot be reliably prevented through use of safety controls • Documenting need for surveillance in risk assessment • Registration + attendance at health surveillance, support sanctions for non-attendance • Ensure exposure record is completed by all employees exposed |
| Employees, Researchers, graduate and undergraduate Students, Academic visitors | <ul style="list-style-type: none"> • Attend training • Follow the safe system of work • Attend surveillance if specified as a control measure for their work • Complete Health (Exposure) Record • Report symptoms/exposure incidents |
| Safety Officers | <ul style="list-style-type: none"> • Advising on exposure controls • Assist in identifying work requiring HS • Assist in monitoring compliance with HS programmes. • Reviewing risk assessments & use of controls in the light of HS findings |
| Occupational Health | <ul style="list-style-type: none"> • Advise on Policy development • Advise on need for + provide appropriate <i>generic & project-specific</i> HS programmes • Provide periodic recall of those enrolled in active health surveillance • Report individuals' surveillance outcomes to the Health (Exposure) Record holder • Reporting defaults to Principal Investigators / risk assessor • Reporting outcomes and trends • Reports cases under RIDDOR and to individual's general practitioner |

15. Appendix 3: Example Health (Exposure) Record

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| Employee's Name: Ref No: | Gender: Date of Birth: NI Number: | Address: |
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| Name of Substance CAS No | Nature of Hazard (1) | Physical State (2) | Quantity | Amount (3) | Frequency/ Duration of Use (4) | Control Measures (5) | Date Exposure Commenced | Date exposure ceased | Incident/ Accident/ Surveillance records attached Y/N (6,7) |
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- 1 Carcinogen, mutagen, substance toxic to reproduction, respiratory sensitizer (ie asthmagens), skin sensitizer (Relevant risk phrases R45, R46, R49, R60, R61, R64 where listed)
- 2 Liquid, solid, dust, vapour or gas
- 3 Include amount and units
- 4 Daily, weekly, monthly, rarely

- 5 Fume cupboard, laminar flow bench, local exhaust ventilation (LEV), glove box or other form of isolator, personal protective equipment (please specify)
- 6 Please attach copies of any incident/accident details
- 7 Please keep with any health surveillance outcomes from OHS